

WEATHER OF THE MONTH.

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

GENERAL CONDITIONS.

By A. J. HENRY, Meteorologist.

The ocean highs which become firmly established in the Northern Hemisphere in July begin to contract in area and the barometric level begins to sink in August as continental pressures increase somewhat. The continental low pressure of Asia increases 0.05 to 0.10 inches, and in general the annual swing in the pressure from summer to winter begins. The wind directions in August are not so clearly influenced by the pressure distribution as in the preceding month.

WEATHER OF THE NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

Reports at hand indicate that no less than five distinct disturbances were experienced in Asiatic waters during the month of August. It is impossible at this writing, with the somewhat meager information available, to give accurately the tracks of these storms or to say whether all were well-developed typhoons. Complete accounts will appear later in the Monthly Bulletin of the Philippine Weather Bureau.

The first of these tropical storms made its appearance at the end of July and, on August 1, according to press reports, interrupted telegraphic communications between China, Japan, and the Philippines. It seems to have reached the Sea of Japan, in diminished form, by the 4th.

The second disturbance, which was probably of moderate intensity, caused strong southwest to west winds on the steamer route between Manila and Hongkong during the 6th to 8th.

During the period from the 12th to 15th strong winds, which apparently backed from northeast to west, were experienced in the Eastern Sea.

From the 18th to the 22d a disturbance traveled from a position east of Luzon to the westward, across the China Sea. This typhoon was followed almost immediately by another, which appeared in about the same region but which pursued a different course traveling more to the northwestward and reaching the China coast north of Amoy about the 25th. The American S. S. *Nanking* experienced very heavy weather in this storm but was not near enough to the center to record an extremely low pressure, the lowest reading reported being 29.30 on the 25th.

INDIAN OCEAN.

The British S. S. *Warrior* reports that on August 12th, when nearing Natal, South Africa, a full gale from a westerly direction was encountered, followed, after reaching port, by an unusually high barometer, reading 30.74 inches.

NORTH AMERICA.

Apparently there were no distinctive features in the weather of the current month. The temperature was above the normal for the season in the western plateau region of the United States as in the previous month;

elsewhere it was close to normal. Precipitation in the United States was generally below the seasonal average, except along the immediate Atlantic coast, where heavy local downpours occurred. (See pp. 565-566 above.)

NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

During August, 1919, there were, apparently, comparatively few cyclonic disturbances of marked intensity or extent over the North Atlantic Ocean, although not enough vessel reports were received in time to determine the conditions accurately over the northern steamer lanes, especially during the latter part of the month.

Judging from the observations received from land stations on the American and European coasts, as well as the Azores and Bermudas, it is evident that the mean pressure for the month differed but little from the normal, the departures ranging from +0.04 to -0.06, inches, approximately.

On August 2 there was a well-developed low off the New England coast; it moved rapidly northward, and by the morning of the 3d, was central near Cape Ray, Newfoundland, where the barometric reading was 29.40 inches. No heavy winds were reported on either of these dates, and on the 3d fog was prevalent on the Banks of Newfoundland. On the 9th there was an area of low pressure that occupied about the same territory, and of even less intensity than that of the 3d. From the 10th to the 13th the atmospheric circulation was comparatively sluggish, with slight gradients, the pressure being uniformly high north of the 40th parallel, and somewhat below the normal at the Azores and in the southern division of the ocean.

On the 14th (see Chart IX) a point about 200 miles east of the Virginia Capes was the center of a violent disturbance, although the storm area was of limited extent. Three vessels near the center experienced gales of from 40 to 65 miles an hour, and the observer on the American S. S. *Munrio* states in the storm log: "Gales began on the 13th, wind ESE. Lowest barometer 29.48 inches at 2 a. m. on the 14th, latitude 38°, longitude 74°. End of gale on the 14th, wind WNW. Highest force 65 miles per hour; shifts of wind near time of lowest barometer, backing from ESE. to NE." On the 15th there was a low of slight intensity central near Halifax, Nova Scotia; this moved rapidly eastward, and on the 17th the center was near latitude 50°, longitude 25°; light to moderate winds prevailed as a rule, although on the 17th one vessel in the easterly quadrant reported a moderate southerly gale. On the 18th the Danish S. S. *United States*, while near latitude 56°, longitude 22°, encountered a westerly gale of 50 miles an hour, accompanied by rain. The storm log is as follows: "Gale began on the 17th, wind WNW. Lowest barometer 28.56 inches at 5 p. m. on the 17th at latitude 58° 1', longitude 16° 53'. Highest force of wind 90 miles per hour." Times of end of gale and shifts of wind not given. Unfortunately there

were no reports received north of the position of this vessel, and therefore it was impossible to locate the center of the low, although from the direction of the wind, the S. S. *United States* must have been well in the southern quadrants, especially as a number of vessels from 250 to 300 miles to the southward experienced light to moderate winds, with comparatively high barometric readings. From the 19th to the 25th there were no disturbances of any consequences over the ocean, although during part of that period a slight depression existed off the coast of northern Europe. On the 26th the Province of Quebec was surrounded by an area of low pressure of slight intensity, and on the same day a second low was central near Aberdeen, Scotland, where the barometric reading was 29.07 inches.

Neither of these disturbances was accompanied by heavy weather, and light to moderate winds prevailed over the entire ocean. During the next two days the European low remained nearly stationary in position, gradually filling in. On the 28th reports were received from vessels not far from the French coast showing that moderate westerly gales prevailed in that section, although a number of other craft not far away encountered only moderate winds.

The number of days on which fog was reported was considerably below the normal on the Banks of Newfoundland and over the northern steamer lanes, while fog was somewhat more frequent than usual off the Virginia and North Carolina coasts, as well as in northern European waters.

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

British Isles.—In August, as in the two preceding months, the rarity of thunderstorms formed a continuing feature in a manner which was characterized in other respects by a large amount of disturbed weather. The general rainfall, expressed as a percentage of the average, was as follows: England and Wales, 85; Scotland, 86; Ireland, 81; British Isles, 86.—*Symons's Meteorological Magazine, Sept., 1919, p. 98.*

*France*¹.—L'Orient, August 30, 1919. The coast of Brittany for miles north and south of here is strewn with wreckage thrown on shore during the great storm which prevailed yesterday. At Locquetas a lifeboat and wreckage, apparently from an American merchant ship,

¹ See also note published in MONTHLY WEATHER REVIEW, July, 1919, p. 501.

was washed ashore. The name of the boat could not be deciphered. The storm is abating today.—*N. Y. Eve. Post, Aug. 30, 1919.*

Argentina.—Buenos Aires, August 12, 1919. Efforts to transport passengers over the trans-Andine mule train route again have been abandoned on account of snow. Only mails are now being carried across the mountains.—*Washington Eve. Star, Aug. 13, 1919.*

Australia.—Melbourne, August 27, 1919. Heavy rains have fallen over the wheat belt of New South Wales and Queensland, [breaking a drought and] giving promise of heavy crops from those sections of the country.—*N. Y. Eve. Post, Aug. 28, 1919; [and Hobart, Tas., Mercury, Aug. 20, 1919].*

DETAILS OF WEATHER OF THE MONTH IN THE UNITED STATES.

CYCLONES AND ANTICYCLONES.

The great majority of the *cyclones* which traversed the North American continent passed eastward between the Great Lakes and Hudson Bay. A single cyclone moved northeastward along the Atlantic coast and gave rise to the heavy local downpours as noted in a previous paragraph. None of the cyclones was of unusual intensity.

Eight *anticyclones*, mostly of the Alberta type and four of the North Pacific type, moved east-southeast during the month. The number and movement of both cyclones and anticyclones was closely in accord with the normal expectation.

THE WEATHER ELEMENTS.

By P. C. DAY, Climatologist and Chief of Division.

[Dated: Weather Bureau, Washington, Oct. 1, 1919.]

PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds for August, 1919, are graphically shown on Chart VII, while the means at the several stations, with the departures from the normal, are shown in Tables I and III.

August, like the preceding month, was without marked fluctuations in atmospheric pressure, and the high and low areas were of the usual summer type, frequently without distinctive progressive movement. Moderately high pressure dominated northern districts east of the Rocky Mountains during the first few days of the month and again the latter part of the first and the early portion of the second decades. West of the Rockies, particularly

near the Pacific coast, high pressure, usual to the summer season, prevailed almost continuously during the first half of the month, and it was only occasionally displaced in the latter half. During this period of the month in the districts to eastward of the Rocky Mountains pressure was highest over the southeastern States, although there was no marked change from the conditions normal to the period of the year.

Pressure was moderately low over southern districts during the early part of the month, although no distinctive storm center developed in that region until about the 12th, when falling pressure off the Florida coast indicated the development of a low area to the eastward, which, by the morning of the 13th, appeared as a storm of considerable energy off the Virginia coast. This storm moved to the Canadian maritime provinces within the following 48 hours, attended by high winds and local heavy rains along the immediate coast from the Carolinas to southern New England.

About the middle of the month low pressure moved into the northern border States to westward of Lake Superior, and during the following few days advanced eastward into New England and the Canadian maritime provinces, but lost energy as it approached the coast. This was quickly followed by another low area, which took a similar course and likewise dissipated as it moved toward the New England coast. The latter part of the month was without any material storm development, although near the close a considerable area of rain had overspread the districts to eastward of the Mississippi River.

The average pressure for the month was below the normal over a narrow area along the northern border from eastern Washington to Lake Superior and thence eastward to the Canadian maritime provinces and